

Raley v. Hyundai Motor Company  
Deposition of Charles P. Dickerson - 11/13/2009

Page 1

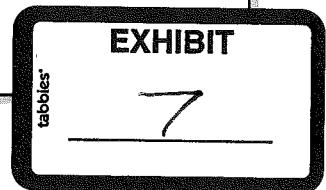
IN THE UNITED STATES DISTRICT COURT FOR THE  
WESTERN DISTRICT OF OKLAHOMA

(1) MISTY RALEY, Individually, )  
and (2) Misty Raley, as Parent )  
and Next Friend of C.G., W.G., )  
and C.G., minor children, )  
                                       )  
                                       )  
Plaintiffs, )  
                                       )  
                                       )  
v.                                 ) No. CV5:08-cv-00376  
                                       )  
                                       )  
(1) HYUNDAI MOTOR COMPANY, )  
LTD., a Korean corporation; and)  
(2) HYUNDAI MOTOR AMERICA, a )  
California corporation, )  
                                       )  
Defendants. )  
                                       )  
\_\_\_\_\_)

DEPOSITION OF CHARLES P. DICKERSON

Phoenix, Arizona  
November 13, 2009  
9:40 a.m.

Prepared by:  
Janet Hauck, RPR  
Arizona Certified  
Reporter Number 50522



Raley v. Hyundai Motor Company  
Deposition of Charles P. Dickerson - 11/13/2009

			Page 2	Page 4
1	INDEX			
2				
3	WITNESS	PAGE		
4	CHARLES P. DICKERSON			
5	Examination By Mr. Teague:	4		
6	Examination By Mr. Cox:	98		
7				
8	EXHIBITS			
9	EXHIBIT	DESCRIPTION	PAGE	
10	1	Letter from Charles Dickerson to John Merritt, 8/9/07, with attachment	6	
11	2	Letter from Charles Dickerson to John Merritt, 8/28/07, with attachment	7	
12	3	Letter from Charles Dickerson to John Merritt, 9/11/07	7	
13	4	Letter from Charles Dickerson to John Merritt, 9/2/09, with attachment	7	
14	5	Letter from Charles Dickerson to John Merritt, 9/14/09	7	
15	6	Speed Calculation Case 3708	9	
16	7	Reconstruction and Analysis of Steering-induced, On-road, Untripped SUV Rollover Tests	12	
17	8	Germane Deposition Notes	88	
18	9	Drawing of Charles Dickerson's Opinion of Path of Vehicle in Rest Position	88	
19	10	Photographs of Vehicle	15	
20	11	Accident Reconstruction Animation CD	100	
21	12	File of Charles Dickerson	101	
22				
23				
24				
25				
			Page 3	Page 5
1	DEPOSITION OF CHARLES P. DICKERSON			
2	was taken on November 13, 2009, commencing at 9:40 a.m.,			
3	at the offices of Legal Video Specialists, 3033 North			
4	Central Avenue, Suite 100, Phoenix, Arizona, before			
5	JANET HAUCK, RPR, a Certified Reporter, Certificate			
6	No. 50522, for the State of Arizona.			
7				
8	APPEARANCES:			
9	For the Plaintiffs (by teleconference):			
10	MERRITT & ASSOCIATES, INC.			
11	Mark A. Cox			
12	917 North Robinson			
13	Oklahoma City, Oklahoma 73101			
14	1 (800) 690-2277			
15	mark.cox@merrittfirm.com			
16				
17	For the Defendants (by teleconference):			
18	JENNINGS, COOK & TEAGUE			
19	J. Derrick Teague			
20	204 North Robinson, Suite 1000			
21	Oklahoma City, Oklahoma 73102			
22	(405) 609-6000 (405) 609-6501			
23	vlp@jchlaw.com			
24				
25				

2 (Pages 2 to 5)

Raley v. Hyundai Motor Company  
Deposition of Charles P. Dickerson - 11/13/2009

Page 6	Page 8
<p>1    because I don't know that I've seen that one. Are you      2    -- let's -- have any of these -- have any of these      3    reports been marked as exhibits previously? They have      4    not; have they?</p> <p>5    A. <u>I don't know.</u></p> <p>6    Q. Well, let's -- let's start with your      7    August 9th, 2007 report and mark it as Exhibit 1.      8         (Exhibit No. 1 was marked.)</p> <p>9    Q. BY MR. TEAGUE: Did that report have with it      10   some diagrams?</p> <p>11   A. Yes, sir, it did. It had one diagram.</p> <p>12   Q. All right. So, your August 9th, '07 report      13   is a total of three pages?</p> <p>14   A. Yes, sir.</p> <p>15   Q. All right.</p> <p>16   A. Hold on. There were -- I'm sorry. There      17   were two diagrams.</p> <p>18   Q. Okay. So, it's a total of four pages?</p> <p>19   A. Yes, sir, a total of four pages.</p> <p>20   Q. Your September 11th, 2000 report, let's mark      21   it as Number 2.</p> <p>22   MR. COX: If you want to go in order, the      23   August 28th is next.</p> <p>24   MR. TEAGUE: Oh, yes. Let's do the      25   August 28 one Exhibit --</p>	<p>1    A. Yes, sir.</p> <p>2    Q. <u>Have you created any other documents,</u>      3    <u>diagrams, anything of that nature, other than what we've</u>      4    <u>gone through here in 1 through 5?</u></p> <p>5    A. <u>Yes, sir, I have.</u></p> <p>6    Q. <u>What else would there be?</u></p> <p>7    A. <u>If you were to go to -- I have it marked as</u>      8    <u>Tab Number 3. So, I'd be I think the fourth section of</u>      9    <u>that stack of documents you have. It starts out first</u>      10   <u>page as Speed Calculation at the top. That is or</u>      11   <u>comprises -- that section comprises my calculations that</u>      12   <u>I use to generate the motion file or key frames for the</u>      13   <u>animation. If you get into photographs, you've gone too</u>      14   <u>far.</u></p> <p>15   Q. <u>All right. It's speed calculations case</u>      16   <u>3708.</u></p> <p>17   A. <u>Yes, sir, that -- that whole section,</u></p> <p>18   Q. <u>This entire section is new -- new work</u>      19   <u>product of yours?</u></p> <p>20   A. <u>Yes, sir, it is.</u></p> <p>21   Q. <u>Including the photographs?</u></p> <p>22   A. <u>There shouldn't be any photographs in that</u>      23   <u>section.</u></p> <p>24   Q. <u>Okay.</u></p> <p>25   A. Well, I'm sorry. There -- there are two.</p>
Page 7	Page 9
<p>1    Q. BY MR. TEAGUE: How many pages is your August      2    28th report?</p> <p>3    A. Four pages.</p> <p>4         (Exhibit No. 2 was marked.)</p> <p>5         (Exhibit No. 3 was marked.)</p> <p>6    Q. BY MR. TEAGUE: September 11th, '07,      7    Number 3, was it two pages, sir?</p> <p>8    A. Yes, sir.</p> <p>9    Q. The September 2nd, 2009, is that the next      10   report in order?</p> <p>11   A. Yes, sir.</p> <p>12   Q. We'll mark it 4.</p> <p>13   A. And it's three pages.</p> <p>14         (Exhibit No. 4 was marked.)</p> <p>15   THE WITNESS: I'm sorry. I can't count      16   today. It's four pages.</p> <p>17   Q. BY MR. TEAGUE: The last one, I believe, is      18   September 14th, 2009?</p> <p>19   A. Yes, sir.</p> <p>20   Q. And that would be Number 5.</p> <p>21   A. It's one page, Number 5.</p> <p>22         (Exhibit No. 5 was marked.)</p> <p>23   Q. BY MR. TEAGUE: Are all of those -- are all      24   of those the reports that you created since your last      25   deposition?</p>	<p>1    screen captures. They would look like photographs.      2    Yes, those are included. Those are screen captures      3    provided me by the animator.</p> <p>4    Q. <u>Is the last page of that section, does it</u>      5    <u>have a calculation of T equals 150 equals 1/2 AT</u>      6    <u>squared; is that the last page of that section?</u></p> <p>7    A. <u>Yes, sir.</u></p> <p>8    MR. TEAGUE: <u>Okay. So, let's mark that</u>      9    <u>as Exhibit Number 6.</u></p> <p>10         (Exhibit No. 6 was marked.)</p> <p>11   THE WITNESS: <u>Do you want to number the</u>      12   <u>pages in it?</u></p> <p>13   Q. BY MR. TEAGUE: <u>Well, if we numbered them, it</u>      14   <u>would assume that your order is the same order as mine.</u></p> <p>15   A. Right.</p> <p>16   Q. So, let's -- we can hold off on that for the      17   moment. How many total pages are there?</p> <p>18   A. <u>I'm going to guess there's 15 or 20. I</u>      19   <u>haven't counted them. I count 22. The first</u>      20   <u>admonishment is not to guess.</u></p> <p>21   Q. <u>That's what I counted, as well.</u></p> <p>22   A. Okay. And I'm sorry. That's Exhibit 6?</p> <p>23   Q. Yes, sir.</p> <p>24   A. <u>I'm going place the exhibit number on the</u>      25   <u>page that says, "Speed Calculation 3708," which was the</u></p>

**Raley v. Hyundai Motor Company**  
**Deposition of Charles P. Dickerson - 11/13/2009**

Page 10	Page 12
<p>1    <u>top page on mine.</u></p> <p>2    Q. Yes, sir.</p> <p>3    A. <u>There are probably a few other things that</u>  <u>are new to my file since my last deposition.</u></p> <p>4    Q. All right. What else?</p> <p>5    A. Do we want to just go through and kind of          make a catalog?</p> <p>6    Q. Yeah. I'm -- I'm -- I wasn't familiar with          Exhibit 6. And so, if you can go through the remainder          of the materials and tell me what's new since your last          deposition, I can determine whether I've seen that          before or not.</p> <p>7    A. In what is my Section 6, I've included a copy          of a publication done by Lawrence Wilson and Michael          Gilbert. And that's the document that's referred to in          my August 28th report. That would not have been in          there prior. I also, since then --</p> <p>8    Q. Let me find that one.</p> <p>9    A. All right.</p> <p>10   Q. My sections aren't numbered, so I have to --</p> <p>11   A. Right, I'm sorry. I should have done that          when I produced it. It would have made this easier. It          would be the eighth one down. It's the only section          that has anything that looks like publications,          literature. Starts out with some handwritten notes at</p>	<p>1    bottom note where I just -- at the very bottom where you          can see it's a little different writing, I'm using a          different pencil. Underneath the line on that page I          know I added since then, because at the last deposition          I hadn't read that paper.</p> <p>2    Q. Okay. And that's referring to the article of          Reconstruction and Analysis of Steering-Induced,          On-Road, Untripped SUV; is that right?</p> <p>3    A. Yes, sir.</p> <p>4    Q. Is that right?</p> <p>5    A. Yes, sir.</p> <p>6    Q. Why don't we mark that Number 7.</p> <p>7    A. The paper?</p> <p>8    Q. Yes. That's the only new material; isn't it?</p> <p>9    A. Yes, sir. Okay. I've got it marked as          Number 7.</p> <p>10   (Exhibit No. 7 was marked.)</p> <p>11   Q. BY MR. TEAGUE: Is there anything else that's          new or in addition to --</p> <p>12   A. Well, since that time, I have reviewed          Dr. Germane's deposition and his file. I don't recall          if I did that before. I don't believe so. His          deposition was on July 9th of '07. Yeah. So, I would          have reviewed that after my last deposition.</p> <p>13   Q. All right.</p>
<p style="text-align: center;">Page 11</p> <p>1    the top.</p> <p>2    Q. At the top it says, "Roll Distance."</p> <p>3    A. Literature review, yes, sir, that's the          section. The first -- first article in there is          actually Exhibit 21 from my October 5th deposition.</p> <p>4    Q. Okay.</p> <p>5    A. And then behind that one is this new paper.</p> <p>6    Q. Analyzing the Trip Phase of Soft Soil          Rollovers?</p> <p>7    A. No, the next one. Reconstruction Analysis of          Steering Induced On Road.</p> <p>8    Q. This one?</p> <p>9    A. Yes, sir. That's the last page. So, it's          the documents before that or the pages before that.</p> <p>10   Q. So, is this whole section here new work, as          well?</p> <p>11   A. No. I think -- I think except for the review          of that last paper, I did that work prior to my last          deposition. I know I reviewed the 980022 paper because          it has a deposition exhibit attached to it.</p> <p>12   Q. Yes, sir, I recall seeing that. Had you --</p> <p>13   these documents here, the start of this section that you          have roll distance, had those -- had those notes been          prepared?</p> <p>14   A. I thought they had, but I am not sure. The</p>	<p style="text-align: center;">Page 13</p> <p>1    A. That's a whole section, my Section 10.</p> <p>2    Q. Do you have any notes or anything like that,          or is that just his copy of his deposition?</p> <p>3    A. It has my notes. I have several pages of          handwritten notes and then copies of materials from his          file. Actually, the next two sections are new, because          I also have a copy of his most recent report,          September 30th, 2009.</p> <p>4    Q. The first section -- well, let me stop and          check. The notes that you have with respect to          Dr. Germane, do those have any of your opinions in them,          or are you just taking notes on what his deposition          testimony is?</p> <p>5    A. These are just notes on what his testimony          was.</p> <p>6    Q. Do your notes contain any criticisms or          things of that nature with respect to his testimony?</p> <p>7    A. Not in those notes, no, sir.</p> <p>8    Q. Okay. Do you have notes somewhere where          you've analyzed his opinion at his deposition?</p> <p>9    A. I don't believe I have -- I don't have          anything written down. I have his materials. Then I          have a drawing where I have put some of his measurements          into my drawing. That's the very top of the next          section. No. Keep going. That's -- that's one of his</p>

4 (Pages 10 to 13)

**Raley v. Hyundai Motor Company**  
**Deposition of Charles P. Dickerson - 11/13/2009**

Page 14	Page 16
1 exhibits. Yes, sir, that's it.	1 A. I have these four depositions. One is of
2 Q. Would this be Number 8 if we marked the	2 Jack Gill, Casey Garza, Chelsea Garza and Wesley Garza.
3 drawing?	3 And I -- I supplied the cover page. I didn't copy the
4 A. Yes, sir, it would be.	4 whole thing. I do have Misty Raley's deposition, but I
5 MR. COX: Did you mark Germane's depo	5 didn't think you guys needed another copy of it in the
6 notes that he made?	6 file.
7 MR. TEAGUE: No, I didn't. Do you want	7 Q. Are you saying that the front cover page of
8 me to?	8 those depositions are included in here?
9 MR. COX: If you want.	9 A. No, sir. I just received these depositions
10 MR. TEAGUE: I'll be happy to. No, I	10 last night.
11 didn't mark the notes.	11 Q. Have you reviewed those depositions?
12 BY MR. TEAGUE: Why don't we mark the	12 A. Yes, sir, I have.
13 notes -- German deposition notes. Let's mark it	13 Q. And who is Jack Gill?
14 Number 8.	14 A. Jack Gill is a stunt driver, a professional
15 A. Do you want that as 8?	15 driver that Mr. Merritt hired to do some testing.
16 Q. Yeah. And then we'll mark the drawing that	16 Q. And what exactly do you have -- do you have a
17 you referenced as Number 9.	17 deposition of him?
18 A. I took some photographs of the undercarriage	18 A. I have a deposition, and I have DVDs of his
19 of this vehicle that are -- a portion of which are	19 work of the testing that he did.
20 contained in one of the September reports, one of the	20 Q. Okay. What deposition -- is that a
21 newer reports.	21 deposition in this case?
22 Q. Yes, sir.	22 A. Yes, sir.
23 A. Those are included in yours, and they're at	23 Q. Okay. What's the date on it?
24 the back of my photographs in my Section 4. You'll know	24 A. August 30th, 2007.
25 they're -- they're marked underneath two to a page as	25 Q. Have you read those materials and reviewed
Page 15	Page 17
1 3708 undercarriage in the photos 1 through 25. My	1 them?
2 original set of photographs is marked as Exhibit 19 in	2 A. Yes, sir, I have.
3 my December 5, '06 deposition.	3 Q. Have you read the -- did you say Casey,
4 Q. This is your Section 4?	4 Chelsea and Wesley Garza?
5 A. Yes, sir.	5 A. Yes, sir.
6 Q. These photographs?	6 Q. Have you read those depositions?
7 A. Yes, sir. Those are them.	7 A. Yes, sir, I have.
8 Q. And these are new photographs of the	8 Q. All right.
9 undercarriage since your last deposition?	9 A. At the back of your data set there, I made
10 A. Yes, sir.	10 photocopies of the CDs and DVDs that I have in this
11 Q. What number are we on now? 10?	11 file, some of which are new since my last deposition.
12 A. I have 10.	12 Q. What section is that, sir?
13 MR. TEAGUE: Let's mark those	13 A. The very last or the second to last. The
14 photographs -- there's 25 of them -- Exhibit Number 10.	14 very last, I think, is a large drawing. Should have
15 (Exhibit No. 10 was marked.)	15 been a drawing, a folded drawing in there someplace
16 THE WITNESS: I guess the last -- there	16 either at the top or the bottom. That's it.
17 are some other materials that are new since then that	17 Q. Is this new? Is this a new drawing or is
18 are not included in this notebook.	18 this --
19 Q. BY MR. TEAGUE: Do you have other materials	19 A. Yes, it is. That's an enlargement of the
20 with you that aren't in the materials that I have here?	20 drawing that is part of that August 28th, '07 report.
21 A. No. You have -- well, I do.	21 Q. <u>Are there any DVDs -- I'm looking at the</u>
22 Q. Oh.	22 <u>copies of the DVDs that you have.</u>
23 A. I have four depositions that are not included	23 A. Yes, sir.
24 in those materials.	24 Q. <u>Are there DVDs or discs here that you have</u>
25 Q. Okay. What four depositions are they?	25 <u>information that you had not seen or -- prior to your</u>

Raley v. Hyundai Motor Company  
Deposition of Charles P. Dickerson - 11/13/2009

	Page 18		Page 20
1	last deposition?	1	A. Yes, sir.
2	A. Yes, sir.	2	Q. Is that -- is that the case, as we sit here
3	Q. Can you tell me which ones those are?	3	today, that you have returned to your opinions of your
4	A. Those are the ones that describe the testing.	4	original testimony in your first deposition?
5	There's two sets of tests. One is a drop test, both	5	A. Fundamentally, that's true, but I have
6	with an OEM and then a modified vehicle, and then	6	refined them through the work I did to generate the
7	another set is a rollover drop test, the JRS test. I	7	animation. So, really, the final opinions are in the
8	had not seen those.	8	August 28th report which includes a slight change in the
9	Q. I see the JRS -- I'm sorry. Go ahead.	9	path and then some slight changes in the speeds to
10	A. Then -- I'm sorry. The bumper strike test	10	reflect that path. And then as part of the animation
11	with Jack Gill, I had not seen those. The rest I had	11	work I generated some roll rate calculations that I had
12	seen. Well, that's not true. There's also that I had	12	not done before. So, those are additional opinions.
13	not seen the video of Dr. Germane's deposition.	13	Q. So, your refined or new opinions, are all of
14	Q. All right. I found one of the -- one of the	14	those expressed in Exhibit Number 2?
15	CDs that you were referring to that you had not seen	15	A. Yes, sir.
16	before, but I'm not sure that I've identified the others	16	Q. That's the one I have not seen before, so
17	here. Photographs of the rear bumper of the exemplar;	17	give me a minute to go through that.
18	had you seen that?	18	A. Certainly.
19	A. I'm sorry. That was broken up.	19	Q. Have you -- you've told me what additional
20	Q. Photographs of the rear bumper of the	20	documents you reviewed. Have you interviewed or spoken
21	exemplar '99 Hyundai Sonata; had you seen that?	21	to anyone to help you refine or provide your final
22	A. Yes, sir -- no. I don't think I'd seen that	22	opinions such as the highway patrolman or any witnesses
23	before my last one. Hang on. Let me find that one.	23	or other experts?
24	Q. Why don't -- I guess let's try to cut down on	24	A. As part of generating the animation, of
25	going through all on them.	25	course, I had quite a few conversations with Mr. Brad
	Page 19		Page 21
1	A. Sure, I understand.	1	Matheson.
2	Q. But whatever is the easiest way -- whatever	2	Q. Besides Matheson, anyone else?
3	is the easiest way for you to tell me what you had not	3	A. But besides him, no, sir, I have not. And I
4	seen before.	4	have not talked to any witnesses, and I haven't talked
5	A. All right. I unfortunately don't have these	5	to the police officer since the day I spent with him
6	in the same order that you're looking at them. I had	6	before my deposition.
7	not seen any of the testing. So, any of them that	7	Q. I'm sorry. I cut you off. I apologize.
8	described testing -- there are three tests in there.	8	A. That's okay.
9	There's two drop tests. There's two that are JRS tests,	9	Q. Have you been back to the accident scene?
10	and then -- I think it's a three-disc set. Hang on and	10	A. No, sir.
11	I'll make sure I've got that correct. And then there's	11	Q. You have inspected the vehicle again?
12	one, two, three discs that are part of the testing done	12	A. I have, yes, sir.
13	by Jack Gill. I also had not seen the deposition of	13	Q. How many times since your last deposition?
14	Dr. Germane or his file materials. I think that's it.	14	A. I think I've seen it twice since my last
15	Q. All right. Any other new materials?	15	deposition.
16	A. No, sir.	16	Q. Why were you inspecting the vehicle again
17	Q. That's a fair amount of new stuff. So, we	17	after your -- you had previously inspected it; hadn't
18	may have to take longer than I planned.	18	you?
19	A. Okay.	19	A. Oh, absolutely. It may have been just -- it
20	Q. But as I read in one of your reports, I	20	may have been just once. I don't recall specifically
21	believe -- let me find it so I read it correctly. You	21	what dates I was there, but once or twice.
22	had stated that you had returned to your original	22	Q. Okay. Once or twice, whatever the number is,
23	opinions that you gave in your first deposition. I	23	what was the purpose of the additional inspections?
24	think that's your August 9th, '07 report which would be	24	A. The purpose was to look at the underside of
25	Exhibit 1.	25	the vehicles more closely.

6 (Pages 18 to 21)

**Raley v. Hyundai Motor Company**  
**Deposition of Charles P. Dickerson - 11/13/2009**

Page 22	Page 24
<p>1       Q. And what were you looking for?</p> <p>2       A. Looking for evidence of ground contact during</p> <p>3       the rollover.</p> <p>4       Q. And I think in one of your reports you have</p> <p>5       some photographs you talk about ground contact, correct?</p> <p>6       A. That's correct, yes, sir.</p> <p>7       Q. All right. Did those inspections or the</p> <p>8       finding of ground contact provide the basis of any</p> <p>9       opinion?</p> <p>10      A. The opinion that there was some ground</p> <p>11     contact, yes, sir. That's in my -- whatever opinion is</p> <p>12     included in that report. If you will hold on a minute,</p> <p>13     I can be a little more specific. The report of</p> <p>14     September 2nd, 2009, Exhibit Number 4, is the result of</p> <p>15     that inspection or inspections.</p> <p>16      Q. All right.</p> <p>17      A. And just to be correct, I did do two</p> <p>18     inspections. There was one on August 31st, 2007, and</p> <p>19     one on October 28th, 2008.</p> <p>20      Q. I wanted to ask you to clarify something for</p> <p>21     me in reading your prior deposition so that I understand</p> <p>22     what we're talking about here today. There was a</p> <p>23     calculation or measurement done by the trooper, one of</p> <p>24     them which was I think 180 feet. Do you recall that</p> <p>25     number?</p>	<p>1       a while. The beginning of the rollover was 25 to 29,</p> <p>2       and at the edge of the roadway was 46 to 53 miles per</p> <p>3       hour.</p> <p>4       Q. Are those the same speed calculations that</p> <p>5       you have today?</p> <p>6       A. No, sir.</p> <p>7       Q. What are your new speed calculations?</p> <p>8       A. At the beginning -- oh, I'm sorry. I thought</p> <p>9       you were through with the question.</p> <p>10      Q. Just go ahead and tell me what your speed</p> <p>11     calculations are.</p> <p>12      A. Okay. At the beginning of the rollover, the</p> <p>13     Raley vehicle was traveling between 21 and 25 miles per</p> <p>14     hour. And at the edge of the road it was between 45 and</p> <p>15     53.</p> <p>16      Q. So, the speed at the edge of the roadway is</p> <p>17     essentially the same as your original opinion?</p> <p>18      A. Roughly, yes, sir.</p> <p>19      Q. And the speed, when the vehicle first begins</p> <p>20     to roll on the grass, is now 21 to 25 miles per hour?</p> <p>21      A. Yes, sir.</p> <p>22      Q. So, you've reduced the speed as the vehicle</p> <p>23     began to roll in the grass; is that right?</p> <p>24      A. That's correct.</p> <p>25      Q. And why did you do that?</p>
<p style="text-align: center;">Page 23</p> <p>1       A. Yes, sir.</p> <p>2       Q. And was that from the edge of the roadway to</p> <p>3       the general area of the point of rest of the vehicle; is</p> <p>4       that correct?</p> <p>5       A. It's a little more specific than that. The</p> <p>6       trooper was very clear in my conversation with him that</p> <p>7       he measured from the stripe at the edge of the roadway</p> <p>8       along the path to the vehicle to be 180 feet.</p> <p>9       Q. You've done some roll rate calculations now?</p> <p>10      A. Yes, sir.</p> <p>11      Q. All right. And we'll get to those in your</p> <p>12     Exhibit 2, right?</p> <p>13      A. Yes, sir.</p> <p>14      Q. All right. Looking at Exhibit Number 1, your</p> <p>15     August 9th, '07 report, you learned that Lee DeChant's</p> <p>16     photogrammetry was apparently in error; is that correct?</p> <p>17      A. That is correct.</p> <p>18      Q. And as a result of the errors in his</p> <p>19     photogrammetry, you reverted back to your opinions that</p> <p>20     you originally expressed in your first deposition.</p> <p>21     correct?</p> <p>22      A. That's correct.</p> <p>23      Q. All right. The speed calculations that you</p> <p>24     gave at that time were what, sir. Approximately --</p> <p>25      A. Hold on. I just -- I hadn't looked at it in</p>	<p style="text-align: center;">Page 25</p> <p>1       A. When we were working on the animation, it</p> <p>2       became clear that the vehicle began to roll farther down</p> <p>3       the hill than I originally opined. So, I moved the trip</p> <p>4       points down the hill slightly about 10 feet. And that</p> <p>5       shortened the roll distance and reduced the speed at</p> <p>6       trip.</p> <p>7       Q. So, your trip point is 10 feet further down</p> <p>8       the hill than it was previously?</p> <p>9       A. Yes, sir.</p> <p>10      Q. And what is the basis for your belief that</p> <p>11     the trip point was somewhere different than your</p> <p>12     original opinion?</p> <p>13      A. When we were doing the animation, as the</p> <p>14     process evolves, we have a three-dimensional scene. And</p> <p>15     then we can place a camera down near the bottom of the</p> <p>16     scene. And when we were watching the vehicle as it went</p> <p>17     through the motions that I had originally calculated,</p> <p>18     which was with my original trip point, it seemed clear</p> <p>19     by looking at it that I had it rolling too soon, too far</p> <p>20     up the side of the hill.</p> <p>21      Q. When you said you can place a camera, a</p> <p>22     camera where at, sir?</p> <p>23      A. We placed a camera probably down in the</p> <p>24     region where the -- on the ground in the region where</p> <p>25     the police officer's car was. I don't recall</p>

**Raley v. Hyundai Motor Company**  
**Deposition of Charles P. Dickerson - 11/13/2009**

Page 26	Page 28
<p>1       specifically.</p> <p>2       Q. Can you tell me as you sit here where you</p> <p>3       believe the police officer's car was positioned?</p> <p>4       A. No, sir, I can't. Not exactly.</p> <p>5       Q. <u>So, if you lowered -- you lowered the speed</u></p> <p>6       <u>of the -- at the trip point which reduced the distance</u></p> <p>7       <u>of roll which resulted in a different point of rest?</u></p> <p>8       A. <u>Same point of rest, a different place to</u></p> <p>9       <u>begin the roll.</u></p> <p>10      Q. <u>So, your point of rest that you're expressing</u></p> <p>11      <u>today is the same point of rest that you expressed in</u></p> <p>12      <u>your first deposition?</u></p> <p>13      A. <u>Correct, plus we moved the -- the</u></p> <p>14      <u>calculations that I've shown there are the calculations</u></p> <p>15      <u>for the animation. The point of rest for the final</u></p> <p>16      <u>version of the animation was moved another 10 feet,</u></p> <p>17      <u>because that fit best with the video matching of the --</u></p> <p>18      <u>or the three-dimensional matching of the scene photo</u></p> <p>19      <u>from the police vehicle with the animation.</u></p> <p>20      Q. <u>I apologize. Did you finish?</u></p> <p>21      A. <u>I did. Yes, sir. Go ahead.</u></p> <p>22      Q. <u>The animation as originally done didn't match</u></p> <p>23      <u>up, and so you had them revise the animation so it would</u></p> <p>24      <u>fit with your point of rest and trip point, right?</u></p> <p>25      MR. COX: Object to the form.</p>	<p>1       A. Yes, sir.</p> <p>2       Q. And why did you do that?</p> <p>3       A. When I reviewed the original, I don't recall</p> <p>4       if I didn't have the barrel data or I made a mistake,</p> <p>5       but in my original path, the Raley vehicle would have</p> <p>6       clipped the barrels as it headed off the edge of the</p> <p>7       road. So, I moved the path slightly so that it wouldn't</p> <p>8       clip the barrel since it's clear that it didn't.</p> <p>9       Q. Now, how did you determine that the path of</p> <p>10      travel in your first reconstruction that the vehicle</p> <p>11      would have hit those barrels at the northern end of the</p> <p>12      road?</p> <p>13      A. I had some more information from between my</p> <p>14      first reconstruction and the DeChant stuff about where</p> <p>15      the barrels were. I don't recall where I got that. I</p> <p>16      may have gotten that off of an aerial photo.</p> <p>17      Q. Are you saying you had more information about</p> <p>18      the exact location of the barrels?</p> <p>19      A. Yes, sir.</p> <p>20      Q. And so, based on that information, you</p> <p>21      concluded that the barrels were in a position such that</p> <p>22      your first reconstruction was inaccurate?</p> <p>23      A. Concerning the path next to the barrels, yes,</p> <p>24      sir.</p> <p>25      Q. All right. But you can't tell me where you</p>
Page 27	Page 29
<p>1       THE WITNESS: <u>That's not quite right. We</u></p> <p>2       <u>did the original animation, then Mr. Matheson did some</u></p> <p>3       <u>work where he's trying to figure out where the rest</u></p> <p>4       <u>position was from the police photographs. And then in</u></p> <p>5       <u>doing so, he found the rest position that fit the</u></p> <p>6       <u>photographs was about 10 feet from where I had opined</u></p> <p>7       <u>that it was. And I had him move the animation to that</u></p> <p>8       <u>point. The 10 feet is well within the resolution of</u></p> <p>9       <u>what we know about the rest position in this case. So,</u></p> <p>10      <u>I didn't recalculate everything. I just had to move the</u></p> <p>11      <u>animation a little bit.</u></p> <p>12      Q. BY MR. TEAGUE: So, did Mr. Matheson do some</p> <p>13      photogrammetry?</p> <p>14      A. He did some sort of alignments of the</p> <p>15      photograph with the scene information. I don't know</p> <p>16      if that's -- I don't really know if he wants to call it</p> <p>17      photogrammetry. I know that he's going to talk about</p> <p>18      that.</p> <p>19      Q. Sure. And when you say, "photographs,"</p> <p>20      you're talking about a scene from the trooper's auto</p> <p>21      cam?</p> <p>22      A. Yes, sir.</p> <p>23      Q. All right. In your Exhibit 1 you also talk</p> <p>24      about the -- you've changed the path of travel of the</p> <p>25      Raley vehicle from your original opinion; is that right?</p>	<p>1       got the new information?</p> <p>2       A. No, sir, I don't -- I don't recall. It may</p> <p>3       not have been new information. It's an error that I</p> <p>4       found and I took that opportunity to correct it.</p> <p>5       Q. So, the path of travel of the vehicle is now</p> <p>6       different from your original position?</p> <p>7       A. Slightly, yes, sir.</p> <p>8       Q. And the speed of the vehicle, up to the point</p> <p>9       of the roadway edge, is essentially the same as your</p> <p>10      first opinion?</p> <p>11      A. Yes, sir.</p> <p>12      Q. The speed at the point that it trips is</p> <p>13      lower, correct?</p> <p>14      A. Correct.</p> <p>15      Q. By about five miles an hour?</p> <p>16      A. Four or five. Four or five.</p> <p>17      Q. And the actual point of where the vehicle</p> <p>18      began to trip and roll is 10 feet further down the</p> <p>19      slope?</p> <p>20      A. Yes, sir.</p> <p>21      Q. The animation that was created, what was that</p> <p>22      based off of?</p> <p>23      A. It's based on my reconstruction. I should</p> <p>24      say the motion of the car and the path of the car is</p> <p>25      based on my reconstruction.</p>

**Raley v. Hyundai Motor Company**  
**Deposition of Charles P. Dickerson - 11/13/2009**

Page 34	Page 36
<p>1   feet, and that's the direction.</p> <p>2   Q. All right. So, where you show the vehicle in</p> <p>3   this particular drawing which is page 4 of Exhibit 2, is</p> <p>4   that the point of rest, or does it need to be extended</p> <p>5   10 feet further on the drawing?</p> <p>6   A. My opinion about the point of rest would be</p> <p>7   it's somewhere between where I have it on this drawing</p> <p>8   and 10 feet beyond that.</p> <p>9   Q. Okay. So, if I understand correctly, the</p> <p>10   vehicle traveled or came to a point of rest 10 feet</p> <p>11   further along its path in which you had originally</p> <p>12   reconstructed?</p> <p>13   A. Well, it came to rest somewhere in that area.</p> <p>14   So, the drawing you have in front of you is one end of</p> <p>15   its rest area, and the animation really shows the other</p> <p>16   end.</p> <p>17   Q. <u>All right. Looking at -- looking at</u></p> <p>18   <u>Exhibit 2, your August 28th, '07 report.</u></p> <p>19   A. <u>Yes, sir.</u></p> <p>20   Q. <u>Here you say you've refined your</u></p> <p>21   <u>reconstruction and made some modifications to your</u></p> <p>22   <u>original opinions. They are as follows: Number 1, the</u></p> <p>23   <u>distance from the beginning of the roll to the point of</u></p> <p>24   <u>rest, 50 feet.</u></p> <p>25   A. <u>Yes, sir.</u></p>	<p>1   reconstruction is wrong?</p> <p>2   A. We have the video and the testimony from the</p> <p>3   police officer. We generate an animation, and then when</p> <p>4   I view the animation, I look back and watch the</p> <p>5   animation and say, "I have it rolling too far up the</p> <p>6   hill." It's an opportunity to visualize the three-</p> <p>7   dimensional nature of the rollover. So, it's more</p> <p>8   accurate -- and you're out of the video screen, so --</p> <p>9   Q. I'm sorry.</p> <p>10   A. That's quite all right.</p> <p>11   Q. Go ahead.</p> <p>12   A. So, the -- as part of the process of</p> <p>13   generating the detail for the animation, I decided that</p> <p>14   it's more correct. It's better if I have it rolling a</p> <p>15   little farther down the hill, having it start rolling a</p> <p>16   little farther down the hill.</p> <p>17   Q. All right. Tell me, though, if the three-</p> <p>18   dimensional video is based on your original</p> <p>19   reconstruction, how does viewing your original</p> <p>20   reconstruction in three-dimension tell you that your</p> <p>21   point of trip is somehow inaccurate?</p> <p>22   A. If you were standing on the ground out there,</p> <p>23   and we brought a car in and drove it through the scene</p> <p>24   and rolled it down the side of the hill and videotaped</p> <p>25   it, you would look at it and say, "Wow, it should have</p>
Page 35	Page 37
<p>1   Q. <u>Is that correct?</u></p> <p>2   A. <u>Correct.</u></p> <p>3   Q. <u>What was -- what was the distance in your</u></p> <p>4   <u>first deposition from the beginning of the roll to the</u></p> <p>5   <u>point of rest?</u></p> <p>6   A. <u>I think it was 60 feet.</u></p> <p>7   Q. <u>And tell me what information you had that</u></p> <p>8   <u>caused you to reduce the distance of the roll.</u></p> <p>9   A. <u>When I was working with the animator in our</u></p> <p>10   <u>three-dimensional scene, it appeared in viewing it that</u></p> <p>11   <u>the -- I had the vehicle rolling or beginning to roll</u></p> <p>12   <u>too far up the hill, meaning it wasn't to the bottom of</u></p> <p>13   <u>the hill yet when it began to roll at 60 feet.</u></p> <p>14   Q. <u>So, you're saying that your original</u></p> <p>15   <u>reconstruction had it rolling further up the slope?</u></p> <p>16   <u>What's the significance of that?</u></p> <p>17   A. <u>The significance is that when I did more</u></p> <p>18   <u>work, I was able to refine it. And through the more</u></p> <p>19   <u>work and working out specifically generating the details</u></p> <p>20   <u>that are required to generate the animation, I decided</u></p> <p>21   <u>that it was more accurate if the roll began a little</u></p> <p>22   <u>further down the hill than I originally opined.</u></p> <p>23   Q. I'm trying to understand, if the three-</p> <p>24   dimensional video is based on your reconstruction, how</p> <p>25   does the animation itself tell you that your</p>	<p>1   started rolling a little farther down the hill."</p> <p>2   Because it's not clear in the two-dimensional drawings</p> <p>3   in the original reconstruction how far down the hill the</p> <p>4   car was when it began to roll. It's hard to visualize.</p> <p>5   So, as part of visualizing the reconstruction, I can see</p> <p>6   that there's a place that I can improve it a little and</p> <p>7   make it a little more accurate.</p> <p>8   Q. But you're not suggesting that that animation</p> <p>9   is actually the dynamics of the vehicle at the time of</p> <p>10   the accident; are you?</p> <p>11   A. I'm suggesting that it approximates the</p> <p>12   dynamics of the vehicle at the time of the accident.</p> <p>13   All the motion is physically correct. We don't know the</p> <p>14   exact details of what happened out there.</p> <p>15   Q. I guess -- I guess I'm struggling with</p> <p>16   understanding how one -- if the animation is based on</p> <p>17   your reconstruction, how -- how your reconstruction</p> <p>18   viewed in animation tells you your reconstruction is</p> <p>19   wrong.</p> <p>20   MR. COX: Object to the form; asked and</p> <p>21   answered.</p> <p>22   THE WITNESS: I'm trying to explain it in</p> <p>23   a different way. The animation is physically correct.</p> <p>24   The scene is based on three-dimensional measurements.</p> <p>25   So, by looking at the scene, I get more information from</p>

**Raley v. Hyundai Motor Company**  
**Deposition of Charles P. Dickerson - 11/13/2009**

Page 38	Page 40
<p>1    the animation. It's the same as if I went out and stood      2    out there and parked a car on the side of the hill and      3    said: Where do I think it started rolling based on what      4    we see in the police video, based on my reconstruction,      5    and based on the car parked there. It's more      6    information.</p> <p>7    Q. BY MR. TEAGUE: <u>All right. Paragraph 2 in</u>      8    <u>Exhibit 2, that is the speed that you attribute to the</u>      9    <u>vehicle when it began rolling being 21 to 25 miles per</u>      10   <u>hour, correct?</u></p> <p>11   A. <u>Correct.</u></p> <p>12   Q. <u>And why is the speed reduced in your refined</u>      13   <u>opinions as opposed to being what it originally was?</u></p> <p>14   A. <u>It's traveling a shorter distance while it</u>      15   <u>rolls. So, the speed at the beginning of the roll is</u>      16   <u>lower.</u></p> <p>17   Q. <u>And that's based on the assumption that it</u>      18   <u>actually began to roll further down the slope than where</u>      19   <u>you originally opined?</u></p> <p>20   A. Yes, sir.</p> <p>21   Q. Paragraph 3, this is the speed of the vehicle      22   when it left the roadway at the edge of the road from      23   the fog line?</p> <p>24   A. Yes, sir.</p> <p>25   Q. That speed is the same as your original</p>	<p>1    or near the bottom of the hill. And we know about where      2    the vehicle came to rest based on -- primarily based on      3    the police officer's measurements, and then also based      4    on looking at the videotape images. So, from the bottom      5    of the hill where it starts to roll to where it came to      6    rest, the distance is approximately 50 feet.</p> <p>7    Q. What's the margin of error with respect to --      8    or whatever -- what's the terminology you used? You      9    said it was within the -- it was 10 feet within the      10   resolution of reconstruction? I would refer to that as      11   a margin of error; is that a fair statement?</p> <p>12   A. I would -- no. I think I would call it more      13   a region of confidence.</p> <p>14   Q. Okay. What -- what is the region of      15   confidence with respect to the variants on the point of      16   trip? How many feet further up the slope or further      17   down the slope do you think the -- that particular point      18   could vary?</p> <p>19   A. Probably could vary 5 or 10 feet.</p> <p>20   Q. Could it be 20 feet?</p> <p>21   A. Probably not.</p> <p>22   Q. 15 feet?</p> <p>23   A. Don't know. Maybe 15, but probably not. 15      24   would be a significant difference. We'd probably be      25   able to tell that.</p>
Page 39	Page 41
<p>1    opinion?</p> <p>2    A. It's close to the same. Let me check and      3    make sure it's exactly the same. It's a little bit      4    different. Originally, I said 46 to 53. This says 45      5    to 53.</p> <p>6    Q. All right. Is there any significance in the      7    one mile per hour?</p> <p>8    A. No, sir.</p> <p>9    Q. Why do you believe that the vehicle speed as      10   expressed in paragraph 2 there would it begin to roll      11   over -- I'll move back up. And I'm sorry.</p> <p>12   Why do you believe it's at the lower      13   speed now than you originally --</p> <p>14   A. Because it's rolling a shorter distance.</p> <p>15   Q. And I asked you that. Is there anything      16   other than it's rolling a shorter distance?</p> <p>17   A. No, sir.</p> <p>18   Q. Okay. How do you know the exact distance      19   that it rolled?</p> <p>20   A. We don't know the exact distance that it      21   rolled.</p> <p>22   Q. So, you're just assuming that it rolled a      23   shorter distance?</p> <p>24   A. No. It fits the physical evidence. We know      25   that the vehicle began to roll at the bottom of the hill</p>	<p>1    Q. What about the degree of variance with      2    respect to the point of rest? How many feet could that      3    vary?</p> <p>4    A. Probably 10 feet.</p> <p>5    Q. Could it be 20 feet?</p> <p>6    A. Given the work we've done, I don't think so.      7    I don't think it could be that much.</p> <p>8    Q. Well, you know -- you know it's at least 30      9    feet based on what the trooper told you, right?</p> <p>10   A. It's at least what?</p> <p>11   Q. 30 feet.</p> <p>12   A. 30 feet what?</p> <p>13   Q. Well, the difference between what the trooper      14   told you and where you put the vehicle at the point of      15   impact or point of rest is somewhere between probably,      16   what, 5 and 30 feet?</p> <p>17   A. The trooper told me 180 feet, and I have it      18   between 180 and 190 feet.</p> <p>19   Q. But I'm talking about -- I'm not talking      20   about the 180 feet, sir. I'm talking about the general      21   area he described as the point of rest. Because you      22   don't know the exact location, true?</p> <p>23   A. No, we do not. We only have his measurement.</p> <p>24   Q. And his -- where he described for you when      25   you were at the scene is actually 30 feet further</p>

**Raley v. Hyundai Motor Company**  
**Deposition of Charles P. Dickerson - 11/13/2009**

Page 42	Page 44
<p>1    south/southwest than where you put the vehicle now,      2    right?</p> <p>3    A. That's true.</p> <p>4    Q. So, the variants based on the trooper and      5    your reconstruction is at least 30 feet, right?</p> <p>6    A. No, I don't think so. He was working from      7    his memory, and he wasn't -- he wasn't using his      8    measurements.</p> <p>9    Q. But I'm talking about, based on the general      10   area he described for you, the point of rest is      11   somewhere at least within a 30 feet difference between      12   what he told you and what you have down as a      13   reconstruction. Because where he told you was 30 feet      14   further south/southwest than where you place the vehicle      15   now, right?</p> <p>16         MR. COX: Object to the form.</p> <p>17         THE WITNESS: He told me it was -- I'm      18   having trouble with the 30 foot number, because I don't      19   remember what the specific is. That sounds about right,      20   but -- yeah, when he was standing out there, he had it      21   south/southwest of where we were.</p> <p>22         Q. BY MR. TEAGUE: <u>All right. Let's move to</u>      23   <u>paragraph 4, Exhibit 2, the roll rate.</u></p> <p>24         A. Yes, sir.</p> <p>25         Q. <u>Why did you calculate a roll rate?</u></p>	<p>1    Q. Need to know the speed of vehicle at what      2    point in time?</p> <p>3    A. When it begins to roll.</p> <p>4    Q. All right. And you need to know the distance      5    of the roll from the point it begins to the point of      6    rest?</p> <p>7    A. Yes, sir.</p> <p>8    Q. And do you need to know the number of rolls      9    in order to calculate the roll rate?</p> <p>10      A. Yes, sir.</p> <p>11      Q. Any other factors?</p> <p>12      A. It helps if you know points of contact along      13   the way so that you can orient the vehicle. Those are      14   the -- those are the primary things you need to start to      15   estimate roll rate. The more detail -- can I finish my      16   answer?</p> <p>17      Q. I apologize. I thought you were done.</p> <p>18      A. That's okay. I think there's a time lag      19   between us, too. Primarily, you need what I listed.      20   You can provide more detail if you have more physical      21   evidence to work from.</p> <p>22      Q. Are the calculations of roll rate, are those      23   in Exhibit Number 6?</p> <p>24      A. Yes, sir.</p> <p>25      Q. And what was the roll rate that you</p>
Page 43	Page 45
<p>1    A. <u>Well, you have to calculate a roll behavior</u>      2    <u>of the vehicle for the animation. The roll rate is part</u>      3    <u>of that calculation.</u></p> <p>4    Q. <u>You had not previously done that before?</u></p> <p>5    A. <u>That's correct.</u></p> <p>6    Q. <u>Why did you not do it before?</u></p> <p>7    A. <u>I have not been asked to.</u></p> <p>8    Q. <u>Were you asked to do a roll rate calculation</u>      9    <u>sometime after your first -- or second deposition?</u></p> <p>10      A. Yes, sir.</p> <p>11      Q. And what was the purpose for it? Was there      12   any purpose for that besides the animation?</p> <p>13      A. Well, it comes out of the animation. I was      14   asked to do the animation, so that would be the purpose.</p> <p>15      Q. Did Mr. Merritt ask you to do that?</p> <p>16      A. Yes, sir.</p> <p>17      Q. Do you remember what he -- specifically what      18   he asked you to do and why?</p> <p>19      A. He asked me to provide the information that      20   Mr. Matheson needed to produce an animation of this      21   crash. The roll behavior is part of that calculation.</p> <p>22      Q. Tell me what factors or information you have      23   to have in order to calculate a roll rate.</p> <p>24      A. Primarily, you need to know speed, the      25   distance that it rolled and the number of rolls.</p>	<p>1    determined for this vehicle?</p> <p>2    A. The average roll rate through the first roll      3    was about 310 degrees per second, and then through the      4    second roll it was a little slower. Hang on. I'll give      5    you the exact number. The second roll was about 185      6    degrees per second.</p> <p>7    Q. In the report you have roll rate was between      8   185 and 310, and you're separating those out, now      9   telling me that 310 is for the first roll, 185 is for      10   the second roll?</p> <p>11      A. Yes, sir, through the -- through the      12   beginning of the roll it's a little higher than the end.</p> <p>13      Q. Have you done anything with respect to Misty      14   Raley, her body dynamics or when she was ejected or      15   anything like that?</p> <p>16      A. Our connection is breaking up. I lost      17   everything after "Misty Raley."</p> <p>18      Q. Can you hear me now?</p> <p>19      A. Yeah, now I can hear you.</p> <p>20      Q. Have you done anything with respect to Misty      21   Raley's eject or evaluating when she was ejected?</p> <p>22      A. No, sir. We're having trouble with our      23   connection. My understanding is the question is: Have      24   I done anything with the dynamics of Misty Raley and her      25   ejection?</p>

**Raley v. Hyundai Motor Company**  
**Deposition of Charles P. Dickerson - 11/13/2009**

Page 66	Page 68
<p>1       Q. All right. Let's go to -- let me ask you      2 real quick. Exhibit Number 7 is an article that you had      3 not previously read when you gave your original opinions      4 in your first deposition; is that right?</p> <p>5       A. That's correct.</p> <p>6       Q. And you since have read it. Is there any      7 significance it to with respect to your opinions?</p> <p>8       A. Yes, sir.</p> <p>9       Q. Tell me what those are. What is significant      10 about this article as to what opinion?</p> <p>11      A. I have the opinion that the vehicle rolls      12 over two times in approximately 50 feet. That article      13 shows the vehicle can roll over in 25 feet, complete a      14 revolution in 25 feet.</p> <p>15      Q. I have not had an opportunity to review or      16 see this. So, if you would, tell me, is there more than      17 one vehicle tested in this article?</p> <p>18      A. No, sir. It's a single test presented in      19 great detail.</p> <p>20      Q. What type of vehicle was tested in this one      21 vehicle test?</p> <p>22      A. Hang on. Let me find the article. It's an      23 SUV. I don't remember which one.</p> <p>24      Q. The first page looks like it says a '91 Ford      25 Explorer XLT and a '97 Toyota Forerunner SR5. Are there</p>	<p>1       MR. TEAGUE: Let's take a break real      2 quick.      3 (Recess from 11:56 a.m. to 12:02 p.m.)</p> <p>4       Q. BY MR. TEAGUE: <u>Exhibit 6, does this contain</u>      5 <u>all the calculations that you've made in the case?</u></p> <p>6       A. <u>Yes, sir, it does.</u></p> <p>7       Q. <u>Originally, you had calculated two different</u>      8 <u>speeds. Now you have two speed calculations and a roll</u>  <p>9 <u>rate. Are there other calculations that we haven't</u>      10 <u>talked about besides the distance of travel?</u></p> <p>11      A. <u>Well, I have calculated a range of speeds of</u>      12 <u>the trip, a range of speeds at the edge of the road.</u>      13 <u>And then I have calculated the position versus time and</u>      14 <u>roll angle versus time of the vehicle as well as the</u>      15 <u>position and roll angle versus displacement or distance.</u>      16 <u>And that's what these calculations are that make up the</u>      17 <u>rest of Exhibit 6.</u></p> <p>18      Q. <u>And the purpose of those calculations, was</u>      19 <u>that to provide to Matheson for the animation?</u></p> <p>20      A. Yes, sir.</p> <p>21      Q. Exhibit 5 is your September 14th, 2009      22 report. Did you actually meet with Mr. Matheson?</p> <p>23      A. At any time or on -- in September?</p> <p>24      Q. At any time.</p> <p>25      A. At any time, yes, sir -- yes, sir, I did.</p> </p>
<p style="text-align: center;">Page 67</p> <p>1       two vehicles that were tested?</p> <p>2       A. I thought it was just one, but I haven't read      3 it in a long time. I'm going to have to look at the      4 report.</p> <p>5       Q. Regardless of the number, they're both SUVs,      6 right?</p> <p>7       A. Yes, sir.</p> <p>8       Q. What were the surfaces upon which these tests      9 were conducted?</p> <p>10      A. I believe they were done on asphalt.</p> <p>11      Q. Do you know what speeds the vehicles were      12 traveling at the time of trip?</p> <p>13      A. No, sir, not off the top of my head. I'd      14 have to look at the report. Here we go. There were two      15 tests. '91 Ford Explorer and '97 Toyota Forerunner.</p> <p>16      Q. When did you acquire this article?</p> <p>17      A. Sometime before that August 28th report.</p> <p>18      It's Volume 2, issue 1 of Collision. They don't put a      19 date on their cover page.</p> <p>20      Q. So, in terms of your opinions, this simply      21 supports your belief that the vehicle can complete two      22 revolutions -- or complete a revolution in 25 feet, and      23 clearly can complete 2 in 50 feet?</p> <p>24      A. Yes, sir.</p> <p>25      (Comments off the record.)</p>	<p style="text-align: center;">Page 69</p> <p>1       Q. When did you meet with him?</p> <p>2       A. In August of '07, I went out to his facility      3 to work with him to produce the animation.</p> <p>4       Q. When was the animation completed?</p> <p>5       A. It was pretty much completed when I left at      6 the end of August. We fine-tuned it since then. So, it      7 wouldn't have been completed until after September 14th,      8 2009.</p> <p>9       Q. Has it been -- except for moving the 10 feet      10 relocation, has it been modified farther since September      11 14th?</p> <p>12      A. No, sir.</p> <p>13      Q. All right. So, in August of '07, is it fair      14 to say that the animation was for the most part      15 completed then?</p> <p>16      A. Yes, sir.</p> <p>17      Q. Do you have copies of the animation at the      18 stage it was in August of '07?</p> <p>19      A. No, sir. I don't think I kept any.</p> <p>20      Q. How was it modified from August of '07 until      21 September of '09?</p> <p>22      A. I think the only differences would be the      23 shifting at 10 feet that occurred that's discussed in      24 this letter. And I think that also the other      25 modification was that since I was there, Mr. Matheson</p>